Analele Universităţii din Craiova, seria Agricultură – Montanologie – Cadastru (Annals of the University of Craiova - Agriculture, Montanology, Cadastre Series) Vol. XLV 2015

EFFECT OF BIO-STIMULATOR OF TEAS ON THE DEVELOPMENT OF BEE'S FAMILY

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Keywords: juvenile covered beeswax; swarm; artificial honey combs.

ABSTRACT

In the first series were tested to caraway, Protofil, fresh juice of onions and garlic on the bee families artificially weakened by removing the existing population of ¾ from initial. It was found that the greatest influence had an infusion of stinging nettle. The second series has been tested thyme, effect of Echinacea, the selenium and selenium and mixture of Echinacea on the bee families. Of the number of intervals filled by bees and the honey combs with the most influence had a selenium, and in relation to the surface of the brood, the greatest influence has been driven by artificial Echinacea.La of selenium roii best surface of juvenile unsealed and the total area of juvenile. Instead, artificially weakened families Echinacea has most influenced both the surface of juvenile covered by beeswax and the total area of juvenile

INTRODUCTION

Working bee eclozionează is not yet developed. She must consume amounts of pollen for another 6-9 days in order to conclude growth and because her glandular system to develop (*Colă M., 2006*). Through food, her body weight and total nitrogen content, as well as all the chemicals from their body grow. Free of pollen, young working bees can live shortly and are incapable of secreting with royal jelly. Instead, the working bee will become collector, needs much reduced nitrogen food, it no longer consumes than honey or nectar, discarding any pollen *(Lazăr Șt.,2002*). Not all pollen have the same value food for bees. There are good and bad pollen, varied in composition, but, especially, of the wealth in proteins *(Colă M., 2012*). The most effective method of feeding stimulentă is a weekly administration of a dose of 800-1000 ml of syrup, which has the effect of increasing the amount of brood with 19.5%. (*Moraru P., 2006*). The purpose of this research was the establishment of the effect the use of infusions and herbal extracts on the development of bee families in different physiological states.

MATERIAL AND METHOD

Beekeeping farm were carried out studies lies in the Dolj county and has 180 families of which 130 are destined for pastoral and 50 stupăritului stationary. The experiments were carried out in two experimental series throughout the year 2013 and were used as supplements in feed bees in the first experimental series: infusion of the fresh nettle juice, onion and garlic as well as Protofil product. In the second experimental series performed have used thyme infusion, the infusion of Echinacea, selenium, a mineral element and mixture of selenium and tincture of Echinacea. Nettle leaf infusion was prepared according to the season, either fresh or from nettle with nettle extract dry. We used to be 10 g infusion of dried nettle/100 ml water, 100 g fresh nettle/1000 ml of water. Infusion thus obtained was used in preparing itself or sugar syrup. Protofilul was purchased directly from trade; used 17 ml Protofil/1000 g sugar syrup; Onion extract was obtained by fine grinding of fresh onions and straining through a fine sieve; only the liquid was used in supplementary feeding; We used 5 ml of onion juice from 1 kg of powdered sugar used for preparing itself and 5 ml/kg of sugar syrup. Garlic extract was obtained by fine grinding and sieving through a fine sieve; use 2 ml per kg of garlic juice powdered sugar in cake, or kg of sugar syrup. Thyme extract was prepared as follows: from 50 grams of dried plant was made an infusion of 10% in hot water; After cleaning, this

solution is introduced into 5 kg cake or syrup. We used 10 ml of 10% solution of Echinacea, obtained from plant dry, 1 kg cake or 1 kg of sugar syrup. The mixture of selenium and Echinacea has been obtained by mixing of 1.5 grams of selenium with 4,5 kg powdered sugar and 0.5 liters of Echinacea tincture 10%; This mixture was used for 5 families of bees. To determine the total surfaces of juvenile filed and surfaces full of honey combs has been used frame Netz.

RESULTS AND DISCUSSION

1. Results obtained by testing the effect of nettle, protofil, onions and garlic on the bee families artificially weakened.

Artificially weakening bee families was done by removing frames covered with bees from each family, until they left 4 frames with brood, honey and bees are covered, along with the Queen Bee in the family. Fry the surface averaged 102 dm2/batch, and the surface of the honey of 20-24 dm2/batch. They were created artificially weakened 25 families, each group being composed of five such family groups. the control group was fed only with sugar syrup, 1:1, 1000 g/family period of 10 days, and after the last administration was carried out by measuring the floor surface necăpăcit brood, FRY căpăcit and total surface of sapling for each family.

Table 1

Results of the artificially weakened bee families

Feature	Supplementary nutrition	Witness	Nettle	Protofil	Onions	Garlic
The surface of juvenile necăpăcit (dm2)	Sugar syrup	1,2	12,0	1,5	5,8	1,0
The surface of juvenile căpăcit (dm2)	Sugar syrup	13,0	39,5	36,6	26,4	35,0
The total area of juvenile (dm2)	Sugar syrup	19,2	52,6	38,2	32,2	35,0

Nettle infusion showed the strongest effect on those three characteristics. In a ranking of the supplements used in this year, the onion would lie on the spot (because of the influence he had on the surface of juvenile covered by beeswax), third place, use Protofil, and the lowest is-Stimulator and this time (as well as to the families of the artificial and roii), fresh garlic juice, used as an additive. For the area of juvenile covered by beeswax, the ranking would be: nettle infusion, garlic juice Protofil and weakest onion supplement. The same is true for ranking total area of juvenile.

2. Testing results witness effect of selenium, Echinacea, and the mixture of selenium and echinacea on the families of bees.

4 lots were formed consisting of experimental bee families who have completed the period of wintering and which were fed with honey and sugar syrup containing additions listed above and a control group, conventional fed. As characteristics, was the increase in the number of intervals filled with bees, brood area and area of honeycombs with honey. The track parameters in this experiment is recorded increases in values, lower after taking itself (because the bee families are housed in a normal physiological regression-exchange of generations), but significant after taking the sugar syrup with the addition of nutritional supplements.

Table 2

Results of experimental year 2013 for the bee families

Feature	Supplementary nutrition	Witness	Nettle	Echinacea	Selenium	Selenium Echinacea
Number of frames with bees	Sugar syrup	2,4	3,2	3,0	3,8	3,2
The total area of juvenile (dm2)	Sugar syrup	42,0	43,8	52,6	47,4	49,4
The total area of honeycombs with honey (dm2)	Sugar syrup	38,4	53,0	52,6	56,8	48,0

The differences recorded between supplements have shown that mixing the two of them (selenium and Echinacea) does not induce cumulative effects, how can it would be expected, some of the parameters being bred to use selenium (surface of honeycombs with honey), others from using this infusion of Echinacea (number of intervals filled with bees and brood area), but none of them showing greater stimulator effect when the mixture has been used selenium and Echinacea. Thyme infusion proved the weakest bio from this experiment. Testing the effect of Echinacea *thyme selenium* and selenium and mixture of Echinacea took place in the year 2013 and the swarm. The parameters were determined for juvenile wax unsealed, surface area of juvenile covered by beeswax and the total area of the brood, and the results are presented in table 3.

Table 3

Experimental results for the year 2013 to artificial roii

Feature	Supplementary nutrition	Witness	Nettle	Echinacea	Selenium	Selenium+ Echinacea
The surface of juvenile necăpăcit (dm2)	Sugar syrup	3,4	2,2	3,0	2,8	2,9
The surface of juvenile căpăcit (dm2)	Sugar syrup	5,2	8,8	8,5	11,2	10,4
The total area of juvenile (dm2)	Sugar syrup	26,4	27,6	25,4	26,8	26,6

Biostimulant effect most pronounced for surface juvenile covered by beeswax fry's infusion of thyme, other supplements used, inducing the high values of the effective increase of families. In terms of total area of juvenile, is influenced to the greatest extent by the use of selenium and the mixture of Echinacea and selenium. Infusion of thyme and Echinacea increases lower inducing of total surface of juvenile for experimental compared to the control group. Unsealed brood area has not seen any variant of the actual experimental increases throughout the experiment and all supplements used, with decreases of this parameter. Effect of infusion of thyme, Echinacea, selenium and the mixture of selenium and Echinacea has been tested on the bee families artificially weakened. They were obtained by removing the ¾ of the population.

Table 4

Results in artificially weakened bee families

Feature	Supplementary nutrition	Witness	Echinacea	Seleniu	Seleniu+ Echinacea
The surface of juvenile necăpăcit (dm2)	After the sugar syrup	-0.6	-0.5	+1.9	+0.9
The surface of juvenile căpăcit (dm2)	After the sugar	+3.2	+4.7	-1.1	+0.6
The total area of juvenile (dm2)	After the sugar	+4.8	+5.2	-3.0	-3.0
PRIORITIZING SUPPLEMENTS		**II**	**I**	**III**	**IV**

Analyzing the experimental data it can be seen that all nutritional supplements have a very slight increase in the area of juvenile unsealed for the duration of the experiment. The most pronounced surface stimulation of juvenile unsealed during the whole experiment was recorded when using Selenium as nutritional additives.

CONCLUSIONS

In the year 2013 have been tested experimentally caraway, Protofilului, juice of fresh onions and garlic on the bee families artificially weakened by removing the existing population of ¾ from initial. Characteristics of experimental tracked consist of families artificially weakened bee and the control group were the surface of juvenile unsealed (dm2), the surface of juvenile căpăcit (dm2) and the total area of juvenile. It was found that the greatest influence had an infusion of stinging nettle. This year has been tested and the effect of thyme , Echinacea, selenium and the mixture of selenium and Echinacea on the families of bees after the winter and beginning of spring harvest on the artificial swarm and the bee families artificially weakened. In the case of bee families after the start of the harvest through the winter and spring characteristics were tracked the number of intervals filled with beeswax, the total area and total area of brood combs with honey. Of the number of intervals filled by bees and the honey combs with the most influence had a selenium, and in relation to the surface of the brood, the greatest influence was linked to Echinacea. The artificial influenced roii selenium bridge. better surface of juvenile unsealed and the total area of juvenile. Instead, artificially weakened families Echinacea has most influenced both the surface of juvenile juvenile covered by beeswax and the total area of juvenile.

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